Claims

We claim:

1. An article of manufacture useful in treating a neurological condition characterized by overactivation of an ionotropic glutamatergic receptor, said article containing a pharmaceutical composition comprising an aromatic amino acid, isomer, or analog thereof, and a pharmaceutically acceptable carrier or diluent.

2. The article of manufacture, according to claim 1, wherein said article is an intravenous bag.

3. The article of manufacture, according to claim 1, wherein said article is selected from the group consisting of a syringe, a nasal applicator, and a microdialysis probe.

4. The article of manufacture, according to claim 1, wherein said article further comprises printed materials disclosing instructions for the parenteral treatment of the neurological condition.

5. The article of manufacture, according to claim 4, wherein the printed material is embossed or imprinted on the article of manufacture and indicates the amount or concentration of aromatic amino acid, isomer, or analog thereof, recommended doses for parenteral treatment of the neurological condition, or recommended weights of patients to be treated.

6. The article of manufacture, according to claim 1, wherein said pharmaceutical composition further comprises a facilitating substance that increases transport of said aromatic amino acid, isomer, or analog, across the blood-brain barrier.

7. The article of manufacture, according to claim 6, wherein said facilitating substance is an allosteric enhancer.

8. The article of manufacture, according to claim 1, wherein said aromatic amino acid is selected from the group consisting of L-tyrosine, L-tryptophan, and L-phenylalanine.

9. The article of manufacture, according to claim 1, wherein said pharmaceutical composition comprises a mixture of said aromatic amino acids selected from the group consisting of: L-tyrosine and L-tryptophan; L-tyrosine and L-phenylalanine; L-tryptophan and L-phenylalanine; and L-tyrosine, L-tryptophan, and L-phenylalanine.

10. The article of manufacture, according to claim 1, wherein said aromatic amino acid isomer is an enantiomer selected from the group consisting of D-tyrosine, D-tryptophan, and D-phenylalanine.

11. The article of manufacture, according to claim 1, wherein said pharmaceutical composition comprises a mixture of said aromatic amino acid isomers selected from the group consisting of: D-tyrosine and D-tryptophan; D-tyrosine and D-phenylalanine; D-tryptophan and D-phenylalanine; and D-tyrosine, D-tryptophan, and D-phenylalanine.

12. The article of manufacture, according to claim 1, wherein said pharmaceutical composition comprises a mixture of aromatic amino acids and enantiomers thereof consisting of a dextrorotatory amino acid and a levorotatory amino acid.

13. The article of manufacture, according to claim 1, wherein said aromatic amino acid is a mixture of L-phenylalanine and D-phenylalanine.

14. A method for treating a neurological condition characterized by excessive activation of glutamatergic ionotropic receptors comprising parenterally administering at least one aromatic amino acid, isomer, or analog thereof, to a patient in need of such treatment.

15. The method, according to claim 14, wherein the neurological condition is selected from the group consisting of anoxic damage, hypoxic damage, traumatic brain injury, spinal cord injury, local anesthetic-induced seizure activity, ischemic stroke, ischemic neurodegeneration of the retina, epilepticus, Tourette's syndrome, obsessive-compulsive disorder, drug-induced CNS injury, chronic pain syndromes, lateral sclerosis, Alzheimer's disease, Huntington's chorea, AIDS dementia syndrome, and cocaine addiction, or combinations thereof.

16. The method, according to claim 14, wherein the patient is suffering from the neurological condition.

17. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered to the patient intravenously.

18. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered to the patient intra-nasally.

19. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered in an amount sufficient to raise the concentration of the aromatic amino acid, isomer, or analog to above a physiologically normal level.

20. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered in an amount sufficient to raise the patient's blood plasma level of the aromatic amino acid, isomer, or analog, to within a range of about 200 μM to about 2000 μM.

21. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered in an amount sufficient to raise the patient's blood plasma level of the aromatic amino acid, isomer, or analog, to within a range of about 300 μM to about 1800 μM.

22. The method, according to claim 14, wherein the aromatic amino acid, isomer, or analog thereof, is administered in an amount sufficient to raise the patient's blood plasma level of the aromatic amino acid, isomer, or analog, to within a range of about 800 μM to about 1500 μM.

23. The method, according to claim 14, wherein said aromatic amino acid is selected from the group consisting of L-tyrosine, L-tryptophan, and L-phenylalanine.

24. The method, according to claim 14, wherein a mixture of said aromatic amino acids are administered, and wherein said mixture is selected from the group consisting of: L-tyrosine and L-tryptophan; L-tyrosine and L-phenylalanine; L-tryptophan and L-phenylalanine; and L-tyrosine, L-tryptophan, and L-phenylalanine.

25. The method, according to claim 14, wherein said aromatic amino acid isomer is an enantiomer selected from the group consisting of D-tyrosine, D-tryptophan, and D-phenylalanine.

26. The method, according to claim 14, wherein a mixture of said aromatic amino acid isomers are administered, and wherein said mixture is selected from the group consisting of: D-tyrosine and D-tryptophan; D-tyrosine and D-phenylalanine; D-tryptophan and D-phenylalanine; and D-tyrosine, D-tryptophan, and D-phenylalanine.

27. The method, according to claim 14, wherein a mixture of said aromatic amino acid and said isomer is administered, wherein said mixture comprises a levorotatory aromatic amino acid and a dextrorotatory aromatic amino acid.

28. The method, according to claim 14, wherein a mixture of said aromatic amino acid and said isomer is administered, and said mixture comprises L-phenylalanine and D-phenylalanine.

29. The method, according to claim 14, wherein said aromatic amino acid, isomer, or analog is co-administered with a facilitating substance that increases transport of said aromatic amino acid, isomer, or analog across the blood-brain barrier.

30. The method, according to claim 29, wherein said facilitating substance is an allosteric enhancer.